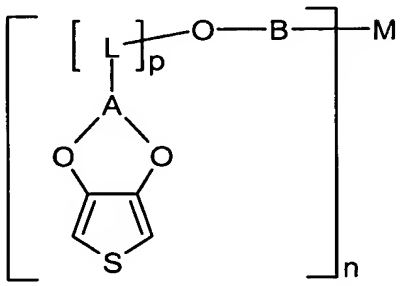
Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claims 1 through 20 (cancelled).

Claim 21 (Previously presented). A 3,4-alkylenedioxythiophene of the formula (I),



(I)

wherein

A is a C_1-C_5-alkylene radical which is substituted at any point by a linker L and optionally bears further substituents,

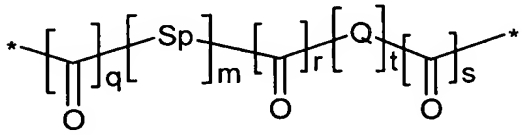
L is a methylene group,

p is 0 or an integer from 1 to 6,

M is an n-functional mesogenic group,

n is an integer from 1 to 8 and

B is a bridging group of the formula (B)



(B)

wherein

q is 0 or 1,

r, s are each 0 or 1, with the proviso that when r is 1, s is 0 and vice versa or both are optionally 0,

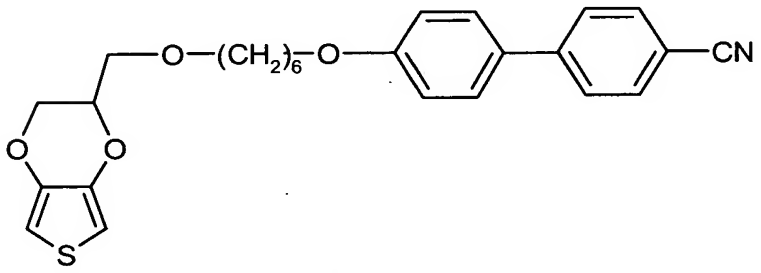
t is 0 or 1,

Sp is a spacer selected from the group consisting of substituted and unsubstituted linear or cyclic C_1-C_{20}-alkylene groups, C_5-C_{20}-arylene groups, C_2-C_{20}-heteroarylene groups in which from one to three heteroatoms selected from the group consisting of N, O and S can additionally be present in the heteroaromatic ring or ring system, C_6-C_{20}-aralkylene groups, C_2-C_{200}-oligoether and –polyether groups,

m is 0 or 1,

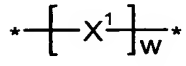
Q is O, S or NH,

with the proviso that said 3,4-alkylenedioxythiophene is not

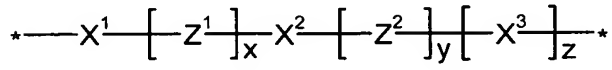


Claim 22. (Previously presented) The 3,4-alkylenedioxythiophene of Claim 21, wherein

M is an n-functional group of the formula (II-a) or (II-b),



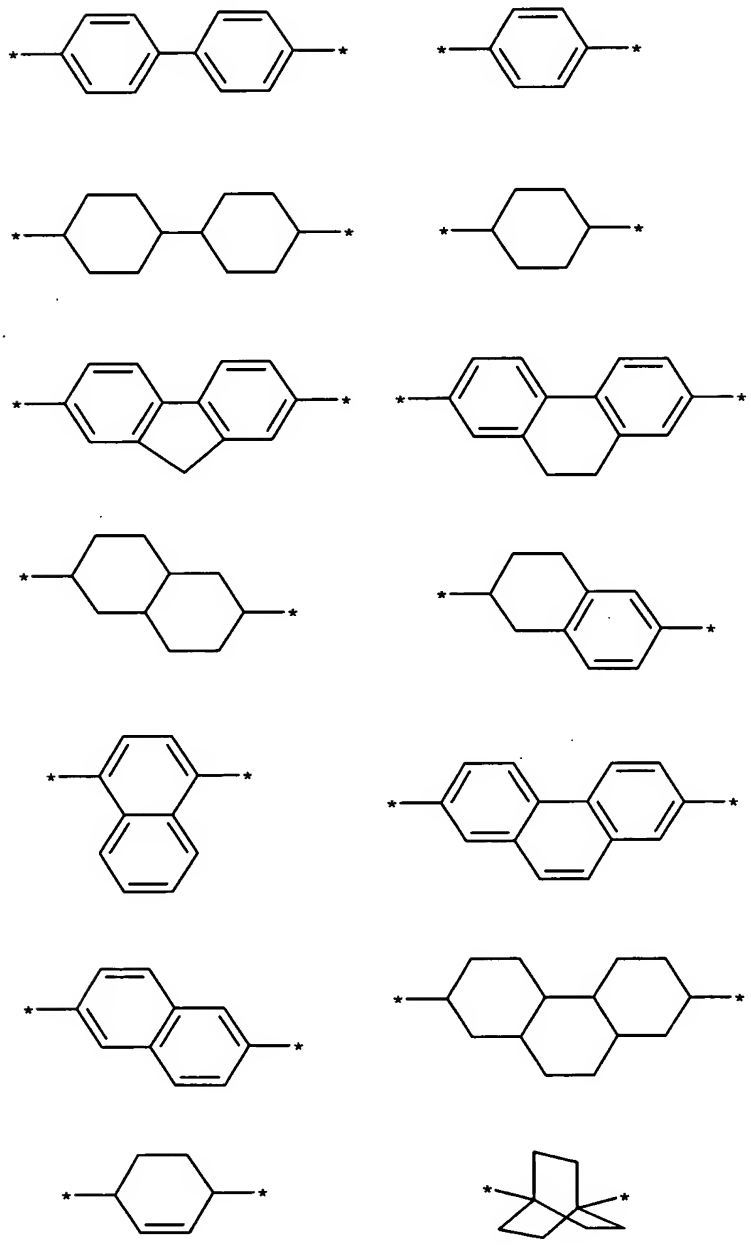
(II-a)

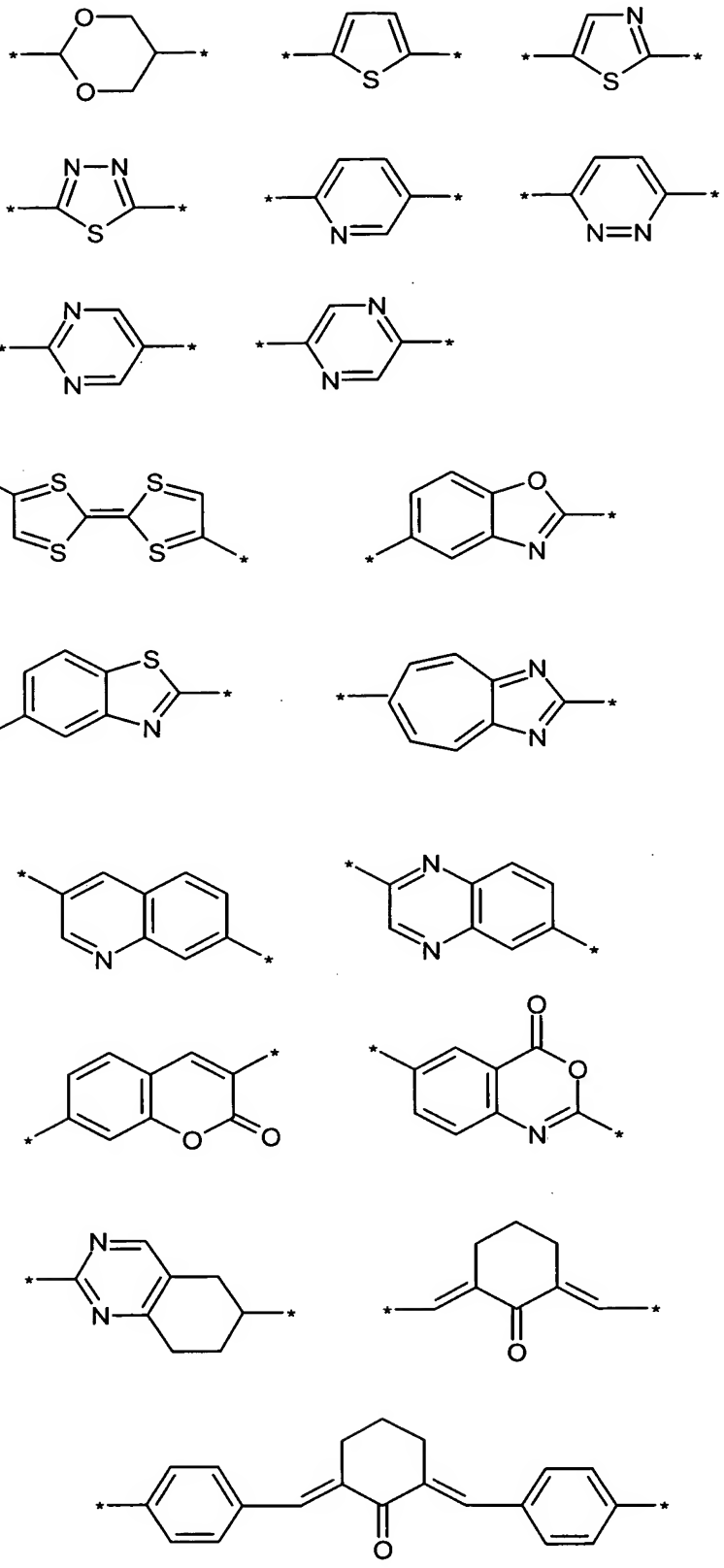


(II-b)

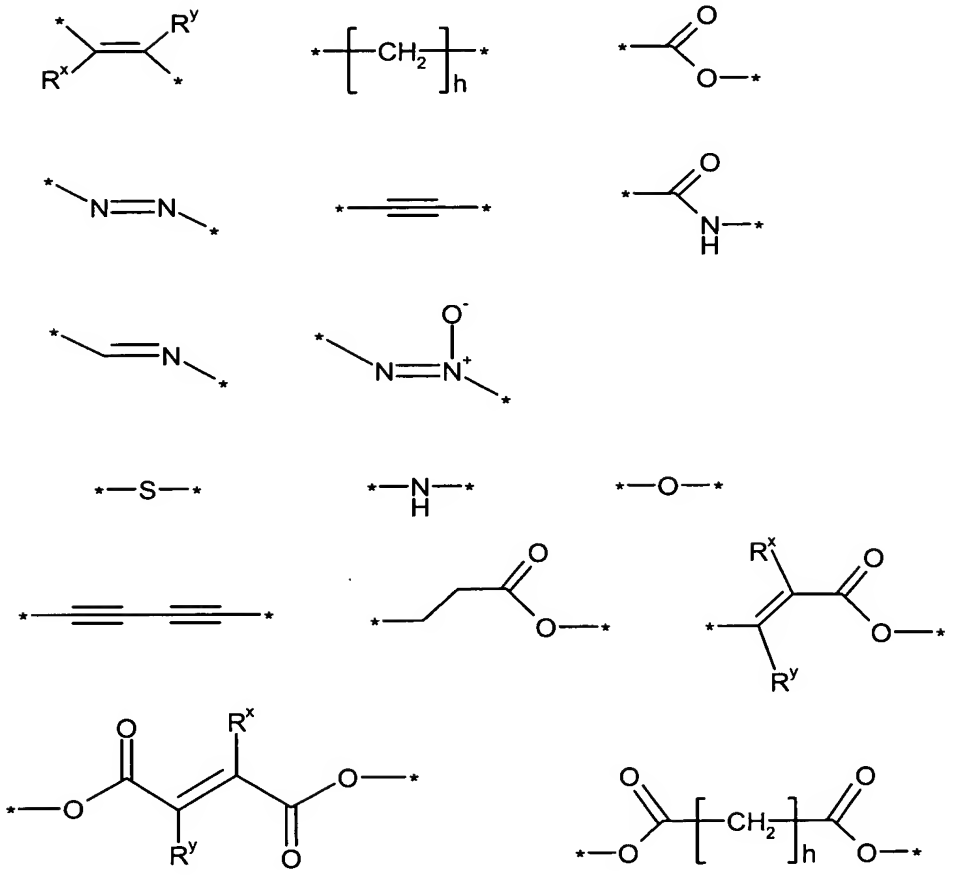
wherein

X^1, X^2, X^3 are substituted or unsubstituted structures selected independently from the group consisting of





Z^1, Z^2 are structures selected independently from the group consisting of



wherein

R^x and R^y are each, independently of one another, H, substituted or unsubstituted C_1-C_{22}-alkyl, C_1-C_{22}-haloalkyl, C_1-C_{22}-alkenyl, C_1-C_{22}-alkoxy, C_1-C_{22}-thioalkyl, C_1-C_{22}-iminoalkyl, C_1-C_{22}-alkoxycarbonyl, C_1-C_{22}-alkoxycarbonyloxy, a radical of an aliphatic C_1-C_{22}-alkanecarboxylic acid or of acrylic acid, halogen, pseudohalogen, NO_2, a carboxyl group or a hydroxy group,

h is an integer from 1 to 10,

w is an integer from 1 to 5,

x, y, z are each, independently of one another, 0 or 1, and

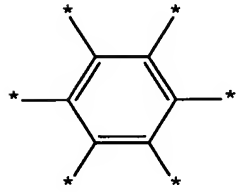
n is 1 or 2, where when n is 1, the group of the formula (II-a) or (II-b) bears a terminal group F at the linkage points denoted by *,

wherein

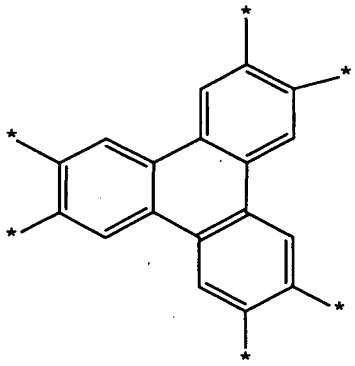
F is H, substituted or unsubstituted C_1-C_{22}-alkyl, C_1-C_{22}-haloalkyl, C_1-C_{22}-alkenyl, C_1-C_{22}-alkoxy, C_1-C_{22}-thioalkyl, C_1-C_{22}-iminoalkyl, C_1-C_{22}-alkoxycarbonyl, C_1-C_{22}-alkoxycarbonyloxy, a radical of an aliphatic C_1-C_{22}-alkanecarboxylic acid or of acrylic acid, halogen, pseudohalogen, a nitro (NO_2) group, a carboxyl group, a sulphonic acid group or sulphonate group or a hydroxy group.

Claim 23. (Currently amended) The 3,4-alkylenedioxythiophene of Claim 21, wherein

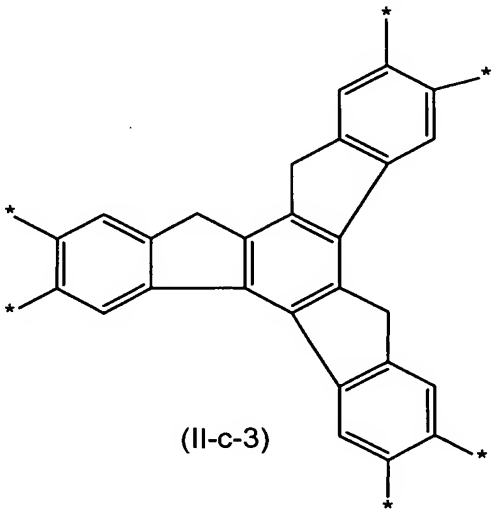
M is an n-functional group selected from the group consisting of the formulae (II-c-1) to (II-c-6),



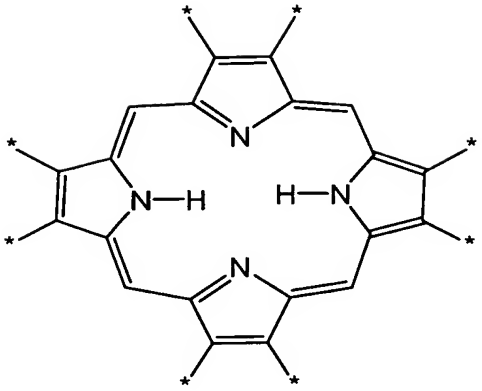
(II-c-1)



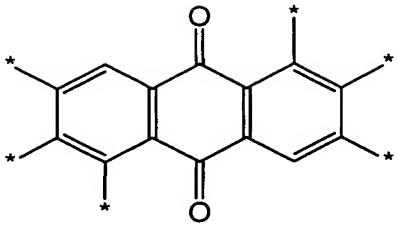
(II-c-2)



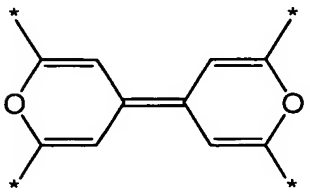
(II-c-3)



(II-c-4)



(II-c-5)



(II-c-6)

wherein

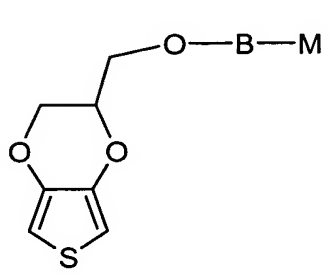
n is ~~an integer from 1 to 8~~ at most 4, 6 or 8,

and wherein when n is an integer below 4, 6 or 8, M is selected from the group consisting of the formulae (II-c-1) to (II-c-6) bearing a terminal group F on the remaining 4 – n, 6 – n or 8 – n linkage points denoted by *,

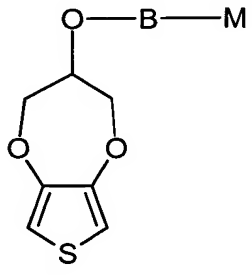
wherein

F is H, substituted or unsubstituted C_1-C_{22}-alkyl, C_1-C_{22}-haloalkyl, C_1-C_{22}-alkenyl, C_1-C_{22}-alkoxy, C_1-C_{22}-thioalkyl, C_1-C_{22}-iminoalkyl, C_1-C_{22}-alkoxycarbonyl, C_1-C_{22}-alkoxycarbonyloxy, a radical of an aliphatic C_1-C_{22}-alkanecarboxylic acid or of acrylic acid, halogen, pseudohalogen, a nitro (NO_2) group, a carboxyl group, a sulphonic acid group or sulphonate group or a hydroxy group.

Claim 24. (Previously presented). The 3,4-alkylenedioxythiophene of Claim 21, having the structure of the formulae (I-a) and/or (I-b),

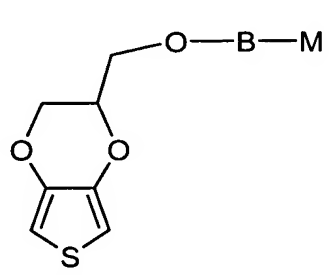


(I-a)

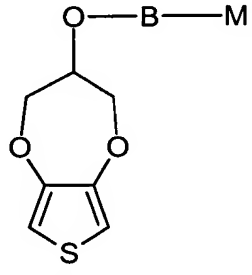


(I-b)

Claim 25. (Currently amended). A mixture ~~of 3,4-alkylenedioxythiophenes of Claim 21, having the structures of the~~ comprising at least one compound of formulae (I-a) and/or (I-b) according to Claim 21~~,~~:

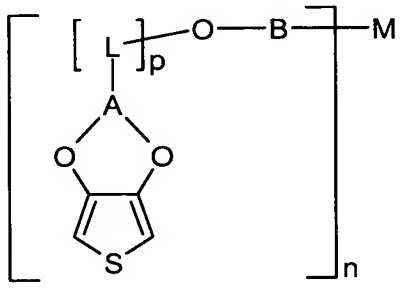


(I-a)



(I-b)

Claim 26. (Currently amended) A 3,4-alkylenedioxythiophene of the formula (I),



(I)

wherein

A is a C_1-C_5-alkylene radical which is substituted at any point by a linker L and optionally bears further substituents,

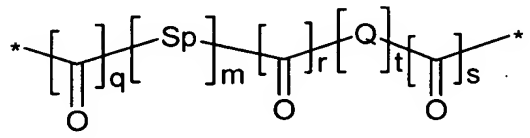
L is a methylene group,

p is 0 or an integer from 1 to 6,

M is an n-functional steroid radical or a derivative of a steroid radical

n is an integer from 1 to 8 and

B is a bridging group of the formula (B)



(B)

wherein

q is 0 or 1,

r, s are each 0 or 1, with the proviso that when r is 1, s is 0 and vice versa or both are optionally 0,

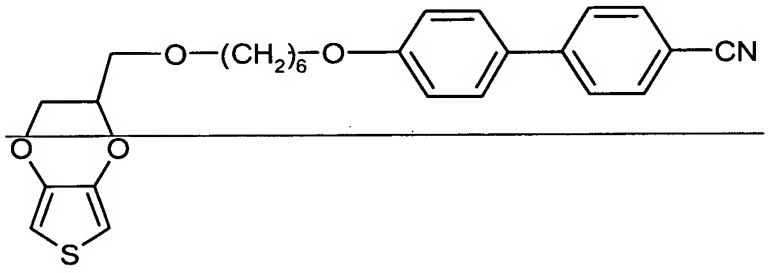
t is 0 or 1,

Sp is a spacer selected from the group consisting of substituted and unsubstituted linear or cyclic C_1-C_{20}-alkylene groups, C_5-C_{20}-arylene groups, C_2-C_{20}-heteroarylene groups in which from one to three heteroatoms selected from the group consisting of N, O and S can additionally be present in the heteroaromatic ring or ring system, C_6-C_{20}-aralkylene groups, C_2-C_{200}-oligoether and –polyether groups,

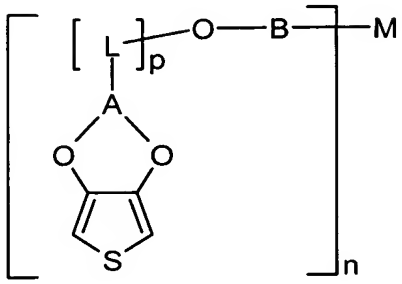
m is 0 or 1,

Q is O, S or NH.

~~with the proviso that said 3,4-alkylenedioxythiophene is not~~



Claim 27 (Currently amended). A 3,4-alkylenedioxythiophene of the formula (I),



(I)

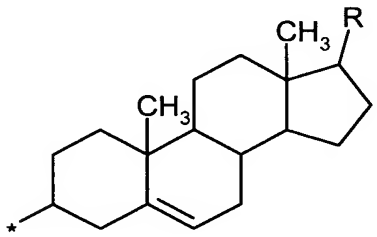
wherein

A is a C_1-C_5-alkylene radical which is substituted at any point by a linker L and optionally bears further substituents,

L is a methylene group,

p is 0 or an integer from 1 to 6,

M is an n-functional cholesteryl radical or a derivative of the cholesteryl radical of the formula (III-a),

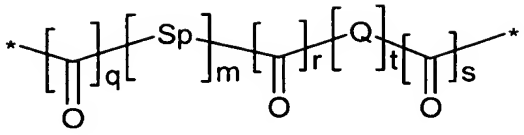


(III-a)

wherein R is H, substituted or unsubstituted C_1-C_{22}-alkyl, C_1-C_{22}-haloalkyl, C_1-C_{22}-alkenyl, C_1-C_{22}-alkoxy, C_1-C_{22}-thioalkyl, C_1-C_{22}-iminoalkyl, C_1-C_{22}-alkoxycarbonyl, C_1-C_{22}-alkoxycarbonyloxy, a radical of an aliphatic C_1-C_{22}-alkanecarboxylic acid or of acrylic acid, halogen, pseudohalogen, a nitro (NO_2) group, a carboxyl group, a sulphonic acid group or sulphonate group or a hydroxy group,

n is ~~an integer from~~ 1 ~~to 8~~ and

B is a bridging group of the formula (B)



(B)

wherein

q is 0 or 1,

r, s are each 0 or 1, with the proviso that when r is 1, s is 0 and vice versa or both are optionally 0,

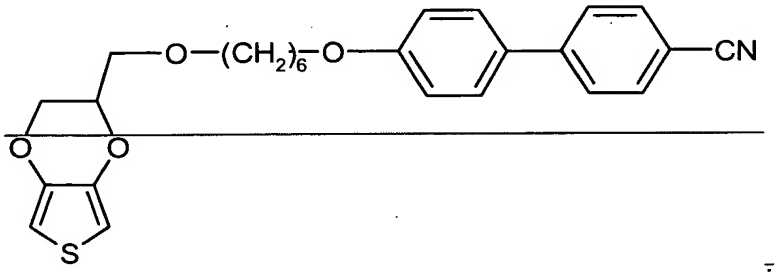
t is 0 or 1,

Sp is a spacer selected from the group consisting of substituted and unsubstituted linear or cyclic C_1-C_{20}-alkylene groups, C_5-C_{20}-arylene groups, C_2-C_{20}-heteroarylene groups in which from one to three heteroatoms selected from the group consisting of N, O and S can additionally be present in the heteroaromatic ring or ring system, C_6-C_{20}-aralkylene groups, C_2-C_{200}-oligoether and –polyether groups,

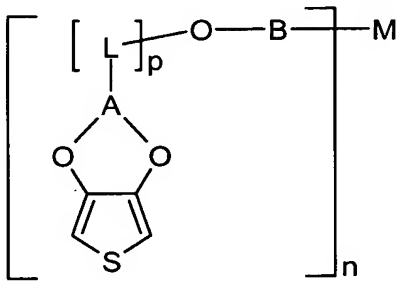
m is 0 or 1,

Q is O, S or NH.

~~with the proviso that said 3,4-alkylenedioxythiophene is not~~



Claim 28 (Previously presented). A process for preparing a polythiophene comprising polymerizing a 3,4-alkylenedioxythiophene of the formula (I),



(I)

wherein

A is a C_1-C_5-alkylene radical which is substituted at any point by a linker L and optionally bears further substituents,

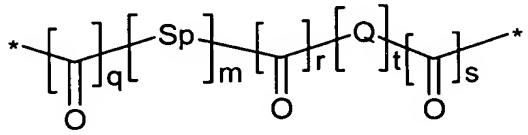
L is a methylene group,

p is 0 or an integer from 1 to 6,

M is an n-functional mesogenic group,

n is an integer from 1 to 8 and

B is a bridging group of the formula (B)



(B)

wherein

q is 0 or 1,

r, s are each 0 or 1, with the proviso that when r is 1, s is 0 and vice versa or both are optionally 0,

t is 0 or 1,

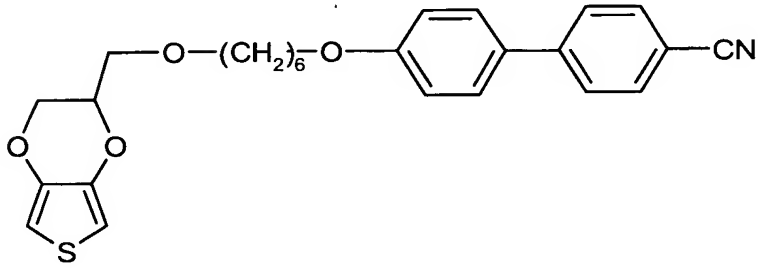
Sp is a spacer selected from the group consisting of substituted and unsubstituted linear or cyclic C_1-C_{20}-alkylene groups, C_5-C_{20}-arylene groups, C_2-C_{20}-heteroarylene groups in which from one to three heteroatoms selected from the group consisting of

N, O and S can additionally be present in the heteroaromatic ring or ring system, C_6-C_{20}-aralkylene groups, C_2-C_{200}-oligoether and –polyether groups,

m is 0 or 1,

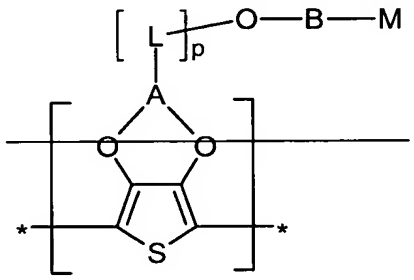
Q is O, S or NH.

with the proviso that said 3,4-alkylenedioxythiophene is not

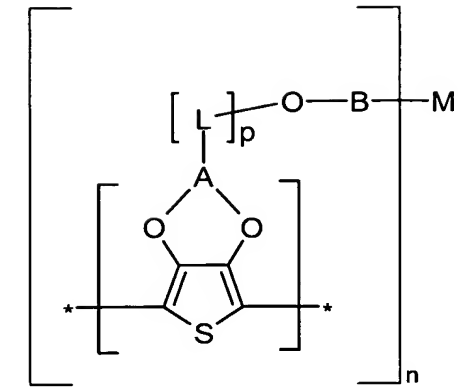


Claim 29 (Currently amended). The process of Claim 28 wherein a mixture of ~~the 3,4-alkylenedioxythiophenes of~~ two or more compounds of Formula 1 are polymerized.

Claim 30 (Currently amended). Polythiophenes, characterized in that they comprise recurring units of the formula (IV),



(IV)



wherein

A is a C_1-C_5-alkylene radical which is substituted at any point by a linker L and optionally bears further substituents,

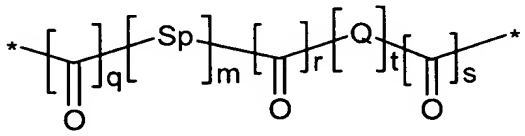
L is a methylene group,

p is 0 or an integer from 1 to 6,

M is an n-functional mesogenic group,

n is an integer from 1 to 8 and

B is a bridging group of the formula (B)



(B)

wherein

q is 0 or 1,

r, s are each 0 or 1, with the proviso that when r is 1, s is 0 and vice versa or both are optionally 0,

t is 0 or 1,

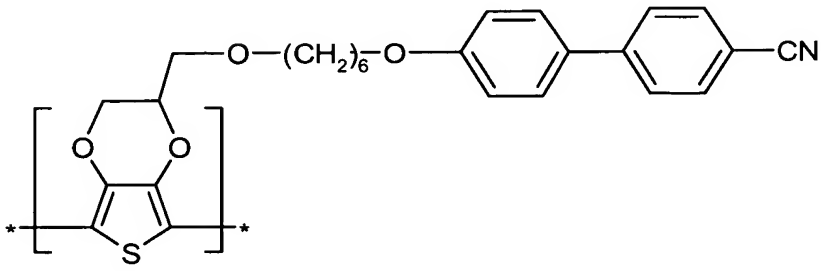
Sp is a spacer selected from the group consisting of substituted and unsubstituted linear or cyclic C_1-C_{20}-alkylene groups, C_5-C_{20}-arylene groups, C_2-C_{20}-heteroarylene groups in which from one to three heteroatoms selected from the group consisting of N, O and S can additionally be present in the heteroaromatic

ring or ring system, C_6-C_{20}-aralkylene groups, C_2-C_{200}-oligoether and –polyether groups,

m is 0 or 1,

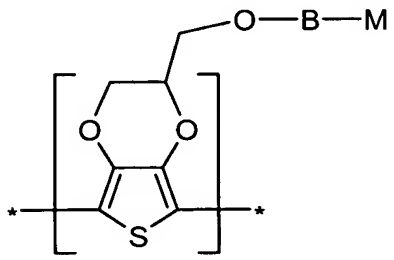
Q is O, S or NH

with the proviso that said polythiophenes do not contain recurring units of the formula (ii)

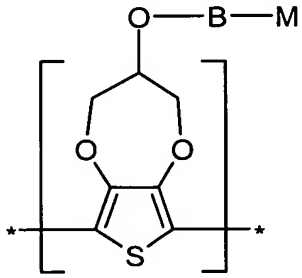


(ii).

Claim 31 (Previously presented). The polythiophene of Claim 30, characterized in that they comprise recurring units of the formulae (IV-a) and/or (IV-b),



(IV-a)



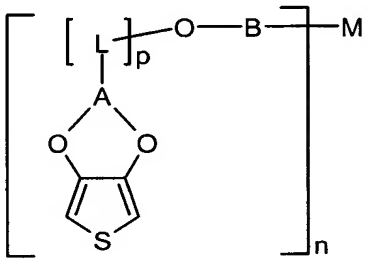
(IV-b).

Claim 32 (Previously presented). The polythiophene of Claim 30, wherein they are cationically and electrically conductive and contain bound anions as counterions to balance the positive charge.

Claim 33 (Previously presented). The polythiophene of Claim 32, wherein the counterions are polyanions of polymeric carboxylic acids or polymeric sulphonic acids.

Claim 34 (Previously presented). The polythiophene according to Claim 30, wherein they are uncharged and semiconducting.

Claim 35 (Previously presented). The process for preparing the polythiophenes of Claim 30, comprising oxidatively polymerizing electrochemically compounds of the formula (I),

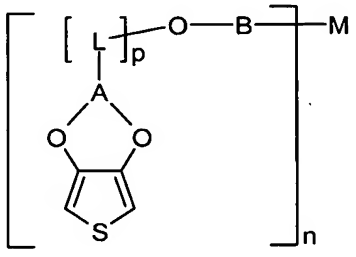


(I).

Claim 36 (Previously presented). A process for preparing electrical or electronic components, light-emitting components, for antistatic coating, in optoelectronics or in solar energy technology comprising incorporating polythiophenes of Claim 30.

Claim 37 (Previously presented). A process for preparing conductive layers comprising incorporating the polythiophenes of Claim 30.

Claim 38. (Previously presented) Process for preparing polythiophenes, comprising oxidatively polymerizing electrochemically compounds of the formula (I),



(I)

where

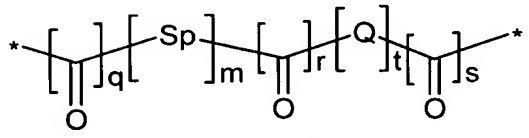
A is a C_1-C_5-alkylene radical which is substituted at any point by a linker L and may bear further substituents,

L is a methylene group,

p is 0 or an integer from 1 to 6,

n is an integer from 1 to 8 and

B is a bridging group of the formula (B)



(B)

wherein

q is 0 or 1,

r, s are each 0 or 1, with the proviso that when r is 1, s is 0 and vice versa or both may be 0,

t is 0 or 1,

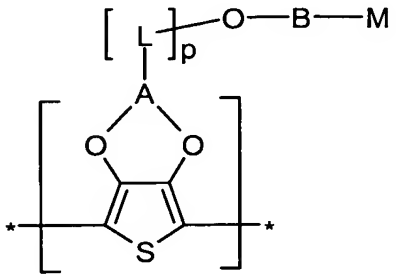
Sp is a spacer selected from the group consisting of substituted and unsubstituted linear or cyclic C_1-C_{20}-alkylene groups, C_5-C_{20}-arylene groups, C_2-C_{20}-heteroarylene groups in which from one to three heteroatoms selected from among N, O and S can additionally be present in the heteroaromatic ring or ring system, C_6-C_{20}-aralkylene groups, C_2-C_{200}-oligoether and –polyether groups,

m is 0 or 1,

Q is O, S or NH, and

M is an n-functional mesogenic group.

Claim 39. (Previously presented) Polythiophenes characterized in that they comprise recurring units of the formula (IV),



(IV)

produced according to the process of Claim 38.

Claim 40 (Previously presented). A process for preparing electrical or electronic components, light-emitting components, for antistatic coating, in optoelectronics or in solar energy technology comprising incorporating the polythiophenes of Claim 39.

Claim 41 (Previously presented). A process for preparing conductive layers comprising incorporating the polythiophenes of Claim 39.